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**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**RIN 0648-XF611**

**Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Waterfront Improvement Projects at Portsmouth Naval Shipyard**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice; Issuance of an Incidental Harassment Authorization.

**SUMMARY:** In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to U.S. Department of the Navy (Navy) to incidentally harass, by Level A and Level B harassment, marine mammals during construction activities associated with waterfront improvement projects at the Portsmouth Naval Shipyard (the Shipyard) in Kittery, Maine.

**DATES:** This Authorization is effective from January 8, 2018, through January 7, 2019.

**FOR FURTHER INFORMATION CONTACT:** Rob Pauline, Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at:

[www.nmfs.noaa.gov/pr/permits/incidental/construction.htm](http://www.nmfs.noaa.gov/pr/permits/incidental/construction.htm). In case of problems accessing these documents, please call the contact listed above.

**SUPPLEMENTARY INFORMATION:**

**Background**

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth.

NMFS has defined “negligible impact” in 50 CFR 216.103 as impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

The MMPA states that the term “take” means to harass, hunt, capture, kill or attempt to harass, hunt, capture, or kill any marine mammal.

Except with respect to certain activities not pertinent here, the MMPA defines “harassment” as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

## **Summary of Request**

On July 14, 2017, NMFS received a request from the Navy for an IHA to take marine mammals incidental to impact pile driving, vibratory pile driving, vibratory pile extraction, and drilling associated with an ongoing waterfront improvement project at the Shipyard. The application was considered adequate and complete on August 25, 2017. The Navy's request is for take of harbor porpoise (*Phocoena phocoena*), gray seal (*Halichoerus grypus*), harbor seal (*Phoca vitulina*), harp seal (*Pagophilus groenlandicus*) and hooded seal (*Cystophora cristata*), by Level A and Level B harassment (authorization of Level A harassment is not proposed for the harp seal or hooded seal). Neither the Navy nor NMFS expects serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

This IHA will cover the second year of a five-year project for which the Navy had previously obtained an IHA. The Navy intends to request take authorization for subsequent years of the project. NMFS previously issued the first IHA to the Navy for this project effective from January 8, 2018 through January 7, 2019. The larger 5-year project involves restoring and modernizing infrastructure at the Shipyard. The Navy complied with all the requirements (*e.g.*, mitigation, monitoring, and reporting) of the previous IHA and information regarding their monitoring results may be found in the **Monitoring and Reporting** section.

## **Description of Specified Activity**

### *Overview*

The purpose of the proposed action is to modernize and maximize dry dock capabilities for performing current and future missions efficiently and with maximum flexibility. The need for the proposed action is to correct deficiencies associated with the pier structure at Berths 11, 12, and 13 and the Dry Dock 3 caisson and concrete seats to ensure that the Shipyard can continue to support its primary mission to service, maintain, and overhaul submarines. The

proposed action covers the second year of activities (January 3, 2018 through January 2, 2019)

associated with the waterfront improvement projects at the Shipyard in Kittery, Maine. The

project includes impact and vibratory pile driving, vibratory pile removal, and drilling.

Construction activities may occur at any time during the calendar year. A detailed description of

the planned waterfront improvement project was provided in the *Federal Register* notice for the

proposed IHA (82 FR 56791; November 30, 2017). Since that time, no changes have been made

to the planned waterfront improvement activities. Therefore, a detailed description is not

provided here. Please refer to that *Federal Register* notice for the description of the specific

activity.

Table 1 shows a summary of the anticipated work effort (e.g., days) and numbers planned

for installation/extraction of each pile type while Table 2 shows estimated hours for each type of

pile driving and drilling activity.

**Table 1: Year 2 (2018) Planned Construction Activity**

Activity/Method	Timing	Number of Days	Pile Type	No. of Piles Installed	No. of Piles Extracted	Overlap Days	Production Estimates
Extract Timber Piles/Vibratory Hammer	January – December 2018	3	15" Timber Piles		18		Estimated 6 piles per day
Install Casing & Drill Sockets/Auger Drilling	January – December 2018	56	36" W-Section Steel	35			Estimated less than one pile completed per day. This includes setting the casing and rock socket drilling.
Install Sheet Pile (SKZ-20) SOE Piles/ Vibro	January – December 2018	12	25" Sheet Piles Steel	144		9/during rock sockets	Estimated 12 sheets per day.
Remove Sheet Pile(SKZ-20) SOE Piles/ Vibro	January – December 2018	6	25" Sheet Piles Steel		144	4/during rock sockets	Estimated 24 sheets per day.
Install Road Plate/H-Pile Support of Excav. Vibro	January – December 2018	3	14" H-Pile Steel	12		2/during rock sockets	Estimated 4 ea. road plates per day.

Remove Road Plate/H-Pile Support of Excav. Vibro	January – December 2018	2	14" H-Pile Steel		12	1/during rock sockets	Estimated 8 ea. Road plates per day.
Install Sheet Pile(AZ50) Sheet wall Bulkhead	January – December 2018	6	25" Sheet Piles Steel	74			Estimated 13 sheets per day.
Install H-Pile (AZ50) Bulkhead Return @ West End of 11C- Vibro	January – December 2018	2	14" H-Pile Steel	4			Estimated 2 piles per day.
Install Sheet Pile (AZ50) Bulkhead Return @ West End of 11C- Vibro	January – December 2018	9	25" Sheet Piles Steel	2			Estimated 2 piles per day.
Install Support/Sister Pile/ Vibro & Impact Hammer	January – December 2018		14" H-Pile Steel	22			Estimated 2.6 piles per day. The vibro would be used to stick the pile and the impact would drive the pile to refusal.*
Totals		<b>Expected total work days (including up to 16 days of concurrent activities) = 84-100 days</b>		<b>293</b>	<b>174</b>	<b>16</b>	

\*Depending on when these piles are driven in the tide cycle there is potential to install all 22 of the support piles in the dry which would further reduce the number of vibratory and impact hammer days. This pile quantity includes all the Support Pile in Berth 11C as well as 8 Support Pile remaining from Berth 11A.

**Table 2: Year 2 (2018) Hours Estimated for Each Pile Driving Activity**

Driving Type	Pile type	Number of Piles	Days	Hours
Impact	14" H-Pile (Sister Pile)	22 piles	9	1.5
Vibratory	25" sheet pile, 15" timber pile, 14" H-pile	236 piles/sheet	27 install 8 remove	216 install 64 remove
Drilling	36" Installation/Rock Sockets	35 casings	56	448

## Comment and Responses

A notice of NMFS's proposal to issue an IHA to the Navy was published in the *Federal Register* on November 30, 2017 (82 FR 56791). That notice described, in detail, the Navy's activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. During the 30-day public comment period, NMFS received comments from the Marine Mammal Commission (Commission).

*Comment 1:* The Commission listed four issues that need to be resolved prior to issuance of the final IHA including:

- increasing the estimated Level A harassment takes for harbor porpoises from one to two to account for group size;
- increasing the estimated Level B harassment takes for harp seals from one to five to account for the potential that harp seals could be present on multiple days during the five months when they are most likely to occur in the project area;
- authorizing Level B harassment takes of five hooded seals to account for the potential that hooded seals could be present on multiple days during the five months when they are most likely to occur in the project area; and
- clarifying or specifying various mitigation and monitoring measure requirements.

*Response:* NMFS has agreed to make the changes described above. These changes are included in the issued IHA.

*Comment 2:* The Commission recommended that NMFS share the rounding criteria with the Commission such that the matter of when rounding should occur in the take calculation can be resolved in the near future.

*Response:* NMFS will share the rounding criteria with the Commission in the near future and looks forward to working with them to resolve this issue.

*Comment 3:* The Commission stated that monitoring during all pile-driving and removal activities is necessary for NMFS and the Navy to be confident that mitigation measures are implemented as intended, the numbers of marine mammals taken are within the limits authorized, and the least practicable impact occurs. The Commission recommended that NMFS require the Navy to implement full-time monitoring of the full extents of various Level A and B harassment zones using two protected species observers (PSOs) during all pile-driving (including drilling rock sockets) and removal activities.

*Response:* NMFS has authorized the employment of a single PSO on one-third of driving days to monitor the shutdown and Level A zones. Two PSOs will be employed on two-thirds of driving days to monitor shutdown, Level A and Level B zones. NMFS is confident that a single qualified PSO can effectively monitor shutdown and Level A zones during all pile driving and removal activities. A single observer will have a complete, unobstructed view of the entirety of shutdown and Level A zones and will be able to document takes and call for shutdown or delay as appropriate. Adding a second PSO on two-thirds of driving days for Level B zone monitoring provides the capability to ensure successful implementation of mitigation measures and document that authorized take limits are not exceeded. Note that under previously issued IHAs, NMFS has not required 100 percent monitoring of Level B zones. In these instances, NMFS found that mitigation measures were effectively employed and marine mammal takes were under authorized limits.

*Comment 4:* The Commission reviewed the marine mammal and hydroacoustic monitoring plan and provided extensive comments to NMFS during the public comment period. The Commission's submitted comment letter features an Addendum listing all of the issues that were raised. The Commission recommends that NMFS ensure that all issues summarized in the Addendum are addressed and incorporated either into the final marine mammal and hydroacoustic monitoring plan or the incidental harassment authorization itself.

*Response:* NMFS will address and incorporate resolutions to issues identified in the Addendum into the final marine mammal and hydroacoustic monitoring plan.

*Comment 5:* The Commission expressed concern about the lack of adequate time to provide public comments as well as the abbreviated timeframes during which NMFS is able to address public comments. The Commission recommended that NMFS ensure that it publishes and finalizes proposed incidental harassment authorizations sufficiently before the planned start date of the proposed activities to ensure full consideration is given to all comments received.

*Response:* NMFS will work to provide adequate time for public comment and response. NMFS will also seek to process IHA applications in a more expeditious manner.

### **Description of Marine Mammals in the Area of Specified Activities**

Five marine mammal species, including one cetacean and four pinnipeds, may inhabit or transit the waters near the Shipyard in the lower Piscataqua River during the specified activity. These include the harbor porpoise, gray seal, harbor seal, hooded seal, and harp seal. None of the marine mammals that may be found in the Piscataqua River are listed under the Endangered Species Act (ESA). Table 3 lists the marine mammal species that could occur near the Shipyard and their estimated densities within the project area. As there are no specific density data for any of the species in the Piscataqua River, density data from the nearshore zone outside the mouth

the Piscataqua River in the Atlantic Ocean have been used instead. Therefore, it can be assumed that the density estimates presented here for each species are conservative and higher than densities that would typically be expected in an industrialized, estuarine environment such as the lower Piscataqua River in the vicinity of the Shipyard.

Detailed descriptions of the of the species likely to be affected by the Navy's project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the *Federal Register* notice for the proposed IHA (November 30, 2017;82 FR 56791); since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. Please refer to that *Federal Register* notice for these descriptions. Please also refer to NMFS' website ([www.nmfs.noaa.gov/pr/species/mammals/](http://www.nmfs.noaa.gov/pr/species/mammals/)) for generalized species accounts.

**Table 3. Marine Mammal Species Potentially Present in the Piscataqua River near the Shipyard**

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N) <sup>1</sup>	Stock abundance (CV, N <sub>min</sub> , most recent abundance survey) <sup>2</sup>	PBR	Annual M/SI <sup>3</sup>
Superfamily Odontoceti (toothed whales, dolphins, and porpoises)						
Family Phocoenidae (porpoises)						
<b>Harbor Porpoise</b>	<i>Phocoena phocoena</i>	Gulf of Maine/Bay of Fundy stock	;;N	79,883 (0.32; 61,415; 2011)	706	437
Order Carnivora – Superfamily Pinnipedia						
Family Phocidae (earless seals)						
<b>Gray Seal</b>	<i>Halichoerus grypus</i>	Western North Atlantic stock	;;N	unknown 505,000 (best estimate 2014 Canadian population DFO 2014)	unknown	4,959

<b>Harbor Seal</b>	<i>Phoca vitulina</i>	Western North Atlantic stock	-;N	75,834 (0.15; 66,884; 2012)	2,006	389
<b>Hooded Seal<sup>4</sup></b>	<i>Cystophora cristata</i>	Western North Atlantic stock	-;N	592,100(-;512,000, 2005)	unknown	5,199
<b>Harp Seal</b>	<i>Pagophilus groenlandicus</i>	Western North Atlantic stock	-;N	7,100,000 (2012)	unknown	306,082

<sup>1</sup> Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

<sup>2</sup> NMFS marine mammal stock assessment reports online at: [www.nmfs.noaa.gov/pr/sars/](http://www.nmfs.noaa.gov/pr/sars/). CV is coefficient of variation; Nmin is the minimum estimate of stock abundance. In some cases, CV is not applicable.

<sup>3</sup> These values, found in NMFS's SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (e.g., commercial fisheries, ship strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

<sup>4</sup> Abundance estimates for these stocks are greater than eight years old and are, therefore, not considered current. PBR is considered undetermined for these stocks, as there is no current minimum abundance estimate for use in calculation. We nevertheless present the most recent abundance estimates and PBR values, as these represent the best available information for use in this document.

## Potential Effects of Specified Activities on Marine Mammals and their Habitat

The effects of underwater noise from the Navy's construction activities for the waterfront improvement project have the potential to result in Level B harassment (behavioral disturbance) for marine mammal species authorized for take. Level A (injury) harassment in the form of permanent threshold shift (PTS) may also occur in limited numbers of animals. The project would not result in permanent impacts to habitats used directly by marine mammals, such as haulout sites, but may have potential short-term impacts to food sources such as forage fish and minor impacts to the immediate substrate during installation and removal of piles. The potential effects to marine mammals and their associated habitat are discussed in detail in the *Federal Register* notice for the proposed IHA (November 30, 2017; 82 FR 56791), therefore that information is not repeated here; please refer to that Federal Register notice for that information.

## Estimated Take

This section provides an estimate of the number of incidental takes that NMFS has authorized through this IHA, which informed NMFS' consideration of both "small numbers" and the negligible impact determination.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines "harassment" as any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes would be by Level A and Level B harassment, as impact and vibratory pile driving as well as drilling have the potential to result in auditory injury and disruption of behavioral patterns for individual marine mammals. The required mitigation and monitoring measures are expected to minimize the severity of such taking to the extent practicable.

As described previously, no mortality is anticipated or authorized for this activity. Below we describe how the take is estimated.

Described in the most basic way, we estimate take by considering: 1) acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; 2) the area or volume of water that will be ensonified above these levels in a day; 3) the density or occurrence of marine mammals within these ensonified areas; and, 4) and the number of days of activities. Below, we describe these components in more detail and present the authorized take estimate.

#### *Acoustic Thresholds*

NMFS recommends acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur PTS of some degree (equated to Level A harassment).

Level B Harassment for non-explosive sources – Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source (*e.g.*, frequency, predictability, duty cycle), the environment (*e.g.*, bathymetry), and the receiving animals (hearing, motivation, experience, demography, behavioral context) and can be difficult to predict (Southall *et al.*, 2007, Ellison *et al.*, 2011). Based on what the available science indicates and the practical need to use a threshold based on a factor that is both predictable and measurable for most activities, NMFS uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS predicts that marine mammals are likely to be behaviorally harassed in a manner we consider Level B harassment when exposed to underwater anthropogenic noise above received levels of 120 dB re 1  $\mu$ Pa (rms) for continuous non-impulsive (*e.g.* vibratory pile-driving, drilling) and above 160 dB re 1  $\mu$ Pa (rms) for non-explosive impulsive (*e.g.*, impact pile driving, seismic airguns) or intermittent (*e.g.*, scientific sonar) sources.

The Navy's planned activity includes the use of continuous (vibratory pile driving, drilling) and impulsive (impact pile driving) sources and, therefore, the 120 and 160 dB re 1  $\mu$ Pa (rms) are applicable.

Level A harassment for non-explosive sources - NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Technical Guidance, 2016) identifies dual criteria to assess auditory injury (Level A harassment) to five

different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). As noted above, the Navy's planned activity includes both impulsive and non-impulsive sources.

These thresholds are provided in Table 4. The references, analysis, and methodology used in the development of the thresholds are described in NMFS 2016 Technical Guidance, which may be accessed at: <http://www.nmfs.noaa.gov/pr/acoustics/guidelines.htm>.

**Table 4. Thresholds identifying the onset of Permanent Threshold Shift**

	<b>PTS Onset Acoustic Thresholds*</b> (Received Level)	
<b>Hearing Group</b>	<b>Impulsive</b>	<b>Non-impulsive</b>
<b>Low-Frequency (LF) Cetaceans</b>	<i>Cell 1</i> $L_{pk,flat}$ : 219 dB $L_{E,LF,24h}$ : 183 dB	<i>Cell 2</i> $L_{E,LF,24h}$ : 199 dB
<b>Mid-Frequency (MF) Cetaceans</b>	<i>Cell 3</i> $L_{pk,flat}$ : 230 dB $L_{E,MF,24h}$ : 185 dB	<i>Cell 4</i> $L_{E,MF,24h}$ : 198 dB
<b>High-Frequency (HF) Cetaceans</b>	<i>Cell 5</i> $L_{pk,flat}$ : 202 dB $L_{E,HF,24h}$ : 155 dB	<i>Cell 6</i> $L_{E,HF,24h}$ : 173 dB
<b>Phocid Pinnipeds (PW) (Underwater)</b>	<i>Cell 7</i> $L_{pk,flat}$ : 218 dB $L_{E,PW,24h}$ : 185 dB	<i>Cell 8</i> $L_{E,PW,24h}$ : 201 dB
<b>Otariid Pinnipeds (OW) (Underwater)</b>	<i>Cell 9</i> $L_{pk,flat}$ : 232 dB $L_{E,OW,24h}$ : 203 dB	<i>Cell 10</i> $L_{E,OW,24h}$ : 219 dB
<p>* Dual metric acoustic thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating PTS onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds should also be considered.</p> <p><u>Note:</u> Peak sound pressure (<math>L_{pk}</math>) has a reference value of 1 <math>\mu</math>Pa, and cumulative sound exposure level (<math>L_E</math>) has a reference value of 1 <math>\mu</math>Pa<sup>2</sup>s. In this Table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for this Technical Guidance. Hence, the subscript "flat" is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (i.e., varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds will be exceeded.</p>		

*Ensonified Area*

Here, we describe operational and environmental parameters of the activity that will feed into identifying the area ensonified above the acoustic thresholds.

Pile driving generates underwater noise that can potentially result in disturbance to marine mammals in the project area. Transmission loss (TL) is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source. TL parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition and topography. The general formula for underwater TL is:

$$TL = B * \log_{10}(R1/R2),$$

Where:

R1 = the distance of the modeled SPL from the driven pile, and

R2 = the distance from the driven pile of the initial measurement.

This formula neglects loss due to scattering and absorption, which is assumed to be zero here. The degree to which underwater sound propagates away from a sound source is dependent on a variety of factors, most notably the water bathymetry and presence or absence of reflective or absorptive conditions including in-water structures and sediments. Spherical spreading occurs in a perfectly unobstructed (free-field) environment not limited by depth or water surface, resulting in a 6 dB reduction in sound level for each doubling of distance from the source ( $20 * \log[\text{range}]$ ). Cylindrical spreading occurs in an environment in which sound propagation is bounded by the water surface and sea bottom, resulting in a reduction of 3 dB in sound level for each doubling of distance from the source ( $10 * \log[\text{range}]$ ). Although cylindrical spreading loss was applied to driving of 14-inch H-piles in the previous IHA, in an effort to maintain consistency NMFS utilized practical spreading loss (4.5 dB reduction in sound level for each doubling of distance) for all driving and drilling activities for this IHA. A practical spreading

value of 15 is often used under conditions, such as at the Shipyard dock, where water increases with depth as the receiver moves away from the shoreline, resulting in an expected propagation environment that would lie between spherical and cylindrical spreading loss conditions.

*Underwater Sound*—The intensity of pile driving sounds is greatly influenced by factors such as the type of piles, hammers, and the physical environment in which the activity takes place. A number of studies have measured sound produced during underwater pile driving projects. These data are largely for impact driving of steel pipe piles and concrete piles as well as vibratory driving of steel pipe piles.

### **Source Levels**

Source levels were collected for the four types of piles that would be installed and two pile-driving methods planned for the project:

1. 14-inch steel H-type piles - Used as sister piles and for SOE system installation; installed/extracted via vibratory hammer and seated as needed with impact hammer.
2. 15-inch timber piles - Used for re-installation of dolphins at Berths 11, 12, and 13 and extracted via vibratory hammer.
3. 25-inch steel sheet piles - Used for the bulkhead at Berth 11 and for SOE installed/extracted via vibratory hammer.

Reference source levels for the project were determined using data for piles of similar sizes, the same pile-driving method as that planned for the project, and at similar water depths. While the pile sizes and water depths chosen as proxies do not exactly match those for the project, they are the closest matches available, and it is assumed that the source levels shown in Tables 5, 6, and 7 are the most representative for each pile type and associated pile-driving method.

The intensity of pile driving or sounds is greatly influenced by factors such as the type of piles, hammers, and the physical environment in which the activity takes place. Reference source levels for the planned project were determined using data for piles of similar sizes, the same pile driving method as that planned for the project, and at similar water depths. While the pile sizes and water depths chosen as proxies do not exactly match those for the project, they are the closest matches available, and it is assumed that the source levels shown in Tables 5, 6, and 7 and are the most representative for each pile type and associated pile driving method.

The Navy analyzed source level values associated with a number of projects involving impact driving of steel H-piles to approximate environmental conditions and driving parameters at the Shipyard (Caltrans 2015). Data from pertinent projects were used to obtain average SEL and rms values for H pile impact installation. To be sure all values were relevant to the site, the Navy eliminated all piles in waters greater than 5 m, as well as all readings measured at ranges greater than 10 m. The Navy used all H piles for which the diameter was not specified as well as the 14 to 15-inch H piles, converted the dB measurements to a linear scale before averaging, and re-converted the average measurements to the appropriate dB units. Piles driven at this project site will be driven in 0-11 feet of water (0-3.4 m). During low tide, piles will essentially be driven in the dry. This varies drastically from other Navy projects on the east coast, such as at the Naval Submarine Base New London, where 14-inch H piles will be driven in water depths of 25 feet (7.62 m). Results are shown in Table 5.

**Table 5: Source Levels for In-Water Impact Hammer 14-inch Steel H-Type (Sister) Piles**

Pile Size and Type	Water Depth (m)	Distance Measured (m)	Peak	RMS (dB)	SEL (dB)
15- inch steel H pile	2-3	10	187	164	154
15-inch steel H pile	2-3	10	180	165	155

15-inch steel H pile	2-3	10	194	177	170
Unspecified steel H pile	0.5-2	10	172	160	147
14-inch steel H pile	1-5	10	205	184	174
14-inch steel H pile	1-5	10	206	182	172
14-inch steel H pile	1-5	10	206	184	174
14-inch steel H pile	1-5	10	210	190	180
14-inch steel H pile	1-5	10	212	192	182
14-inch steel H pile	1-5	10	210	189	179
14-inch steel H pile	1-5	10	212	190	180
14-inch steel H pile	1-5	10	205	190	180
14-inch steel H pile	1-5	10	207	187	177
Unspecified steel H pile	0-0.9	10	--	151	142
Unspecified steel H pile	0-0.9	10	--	154	144
Unspecified steel H pile	0-0.9	10	--	170	159
Unspecified steel H pile	0-0.9	10	--	147	136
Unspecified steel H pile	0-0.9	10	--	147	136
Unspecified steel H pile	0-0.9	10	--	150	143
Unspecified steel H pile	0-0.9	10	--	153	142
Unspecified steel H pile	0-0.9	10	--	151	142
Unspecified steel H pile	0-0.9	10	--	156	146
Unspecified steel H pile	0-0.9	10	--	172	162

Unspecified steel H pile	0-0.9	10	--	161	150
Unspecified steel H pile	0-0.9	10	--	155	145
Unspecified steel H pile	0-0.9	10	--	163	152
Unspecified steel H pile	0-0.9	10	--	178	145
Unspecified steel H pile	0-0.9	10	--	165	154
Averages			200.4	181.4	171.3

Source: Caltrans 2015

While the average rms value is 181.4, the Navy rounded up to 182 dB rms to be conservative. Navy rounded up to 182 from 181.4 to be conservative since not all proxy projects listed had RMS values in the source documents. However, SEL values were available for each proxy project so these calculations are expected to be more accurate, eliminating the need to conservatively round up the 171.3 dB SEL resulting in a value of 171 dB SEL using standard rounding.

Table 6 shows the source levels that were utilized to calculate isopleths for vibratory driving of 25-inch steel sheet piles, and 15-inch timber piles. An average value of 163 dB rms at 10 m was used for 24-inch AZ steel sheet and 150 dB rms at 16 m for 15-inch timber pile. For Year 1 work at the Shipyard Berth 11 the contractor has obtained initial acoustic readings associated with vibratory driving of 14" H-Pile of 148 dB rms at 10 m. Additional details are found in Appendix A in the application. NMFS will use 148 dB at 10 m as the source level since it is site-specific and more conservative than the 145 dB value depicted in Caltrans 2015.

**Table 6. Source Levels for In-Water Vibratory Hammer 24-inch Steel Sheet Piles, and 15-inch Timber Piles**

Pile Size and Pile Type	Water Depth (m)	Distance Measured (m)	Peak (dB)	RMS (dB)	SEL (dB)	Location
24-inch AZ Steel Sheet	15	10	177	163	162	Berth 23,

						Port of Oakland, CA
24-inch AZ Steel Sheet <sup>1</sup>	15	10	175	162	162	Berth 30, Port of Oakland, CA
24-inch AZ Steel Sheet <sup>1</sup>	15	10	177	163	163	Berth 35/37 Port of Oakland, CA
24-inch AZ Steel Sheet – Typical <sup>1</sup>	15	10	175	160	160	CA (Specific location unknown)
24-inch AZ Steel Sheet – Loudest <sup>1</sup>	15	10	182	165	165	CA (Specific location unknown)
<b>24-inch AZ Steel Sheet (Average)<sup>1</sup></b>	<b>15</b>	<b>10</b>	<b>178</b>	<b>163</b>	<b>163</b>	CA (Specific location unknown)
<b>15-inch Timber Pile<sup>2</sup></b>	<b>10</b>	<b>16</b>	<b>164</b>	<b>150</b>	<b>--</b>	WSF Port Townsend Ferry Terminal, WA
<b>14-inch H-type Pile<sup>3</sup></b>	<b>6</b>	<b>10</b>	<b>155</b>	<b>148</b>	<b>145</b>	CA (Specific location unknown)

Source:

<sup>1</sup> ICF Jones & Stokes and Illingsworth & Rodkin 2012

<sup>2</sup> WSDOT 2010.

<sup>3</sup> CALTRANS 2015.

Using the data presented in Table 6 and Table 7, underwater sound levels were estimated using the practical spreading model to determine over what distance the thresholds would be exceeded.

Drilling is considered a continuous, non-impulsive noise source, similar to vibratory pile driving. Very little information is available regarding source levels of in-water drilling activities associated with nearshore pile installation such as that planned for the Berths 11, 12, and 13 structural repairs project. Dazey *et al.* (2012) attempted to characterize the source levels of several marine pile-drilling activities. One such activity was auger drilling (including installation and removal of the associated steel casing). Auger drilling will be employed as part of the Shipyard Project. The average sound pressure levels re 1  $\mu$ Pa rms were displayed for casing installation, auger drilling (inside the casing), and casing removal. For the purposes of this plan, it is assumed that the casing installation and removal activities would be conducted in a manner similar to that described in Dazey *et al.* (2012), primarily via oscillation. These average source levels are reported in Table 7.

**Table 7. Average Source Levels for Auger Drilling Activities During Pile Installation**

<b>Drilling Activity</b>	<b>Water Depth (m)</b>	<b>Distance Measured (m)</b>	<b>RMS (dB)</b>	<b>Location</b>
Casing Installation	1-5	1	157	Bechers Bay Santa Rosa Island, CA
Auger Drilling	1-5	1	151	Bechers Bay Santa Rosa Island, CA
Casing Removal	1-5	1	152	Bechers Bay Santa Rosa Island, CA
Average Drilling Activity	1-5	1	154	

Source: Dazey *et al.*, 2012.

Note: All source levels are referenced to 1 microPascal (re 1  $\mu$ Pa)

IHA applications for other construction projects have reported that, due to a lack of information regarding pile drilling source levels, it is generally assumed that pile drilling would produce less in-water noise than both impact and vibratory pile driving. Based on the general lack of information about these activities and the assumption that in-water noise from pile drilling would be less than either impact or vibratory pile driving, it is assumed that the source levels presented in Table 7 are the most applicable for acoustic impact analysis at Berths 11, 12, and 13. For the purposes of this IHA, however, we will conservatively assume that drilling has identical source levels to vibratory driving when calculating zones of influence. This includes instances where drilling is underway in the absence of any concurrent driving.

As part of Year 2 activities, concurrent work utilizing a vibratory hammer during drilling operations is possible. This potential concurrent activity could occur during installation of the rock sockets for approximately 16 days. The vibratory hammer may be working to install SOE sheets or H-Pile as the drilling work is being conducted. Under concurrent driving conditions, the Navy will use the larger of the two source level values to calculate size of entire ensonified area. Since the vibratory source level is greater than the level associated with drilling, it will be utilized.

With limited source level data available for vibratory pile extraction of 25-inch steel sheet piles, NMFS used the same values for both vibratory installation and extraction assuming that the two activities would produce similar source levels if water depth, pile size, and equipment remain constant.

When NMFS Technical Guidance (2016) was published, in recognition of the fact that sonified area/volume could be more technically challenging to predict because of the duration component in the new thresholds, an User Spreadsheet was developed that includes tools to help predict a simple isopleth that can be used in conjunction with marine mammal density or occurrence to help predict takes. We note that because of some of the assumptions included in the methods used for these tools, we anticipate that isopleths produced are typically going to be overestimates of some degree, which will result in some degree of overestimate of Level A take. However, these tools offer the best way to predict appropriate isopleths when more sophisticated 3D modeling methods are not available, and NMFS continues to develop ways to quantitatively refine these tools, and will qualitatively address the output where appropriate. For stationary sources pile driving, NMFS User Spreadsheet predicts the closest distance at which, if a marine mammal remained at that distance the whole duration of the activity, it would not incur PTS. Inputs used in the User Spreadsheet and the resulting isopleths are reported below in Table 8 and Table 9.

**Table 8: User Spreadsheet Input for Level A Isopleth PTS Calculations**

<b>USER SPREADSHEET INPUT</b>	<b>14" Steel H Impact</b>	<b>14" Steel Vibro</b>	<b>15" Timber Vibro</b>	<b>25" Steel Sheet Vibro</b>	<b>Drilling</b>
Spreadsheet Tab Used	E.1) Impact pile driving	A) Non-Impulsive, Stationary, Continuous	A) Non-Impulsive, Stationary, Continuous	A) Non-Impulsive, Stationary, Continuous	A) Non-Impulsive, Stationary, Continuous
Source Level (Single Strike/shot SEL)	171 SEL	148 rms	150 rms	163	154 rms
Weighting Factor Adjustment (kHz)	2	2.5	2.5	2.5	2.5
Number of strikes per	160	NA	NA	NA	NA

pile					
Activity duration within 24-h period OR number of piles per day	4 piles	4 hours	4 hours	4 hours	8 hours
Propagation (xLogR)	15LogR	15LogR	15LogR	15LogR	15LogR
Distance of source level measurement (meters) <sup>+</sup>	10	10	16	10	10

**Table 9: User Spreadsheet Output for Level A Isopleth and Ensonified Area PTS Calculations**

	PTS Isopleth	
Source Type	High-Frequency Cetaceans	Phocid Pinnipeds
14" Steel H Impact	140 m	63 m
14" Steel Vibro	3.5 m	1.4 m
15" Timber Vibro	7.5 m	1.9 m
25" Steel Sheet Vibro	34.6 m	14.2 m
Drilling (8 hours/day) within Shutdown Zone * utilizing 163 dB rms value	54.9 m	22.6 m
Daily Ensonified Area		
14" Steel H Impact	0.0615 km <sup>2</sup>	0.0125 km <sup>2</sup>
14" Steel H Vibro	38.46 m <sup>2</sup>	6.15 m <sup>2</sup>
15" Timber Vibro	179.9 m <sup>2</sup>	11.33 m <sup>2</sup>
25" Steel Sheet Vibro	0.0038 km <sup>2</sup>	0.00062 km <sup>2</sup>
Drilling (8 hours/day) within Shutdown Zone * utilizing 163 dB rms value	0.0095 km <sup>2</sup>	0.0016 km <sup>2</sup>

\*While 154 dB rms is shown for drilling activity source level, take estimates and calculation of the ensonified area have been based on 163 dB rms (vibratory drilling) as these activities may run concurrently.

Using the same source level and transmission loss inputs discussed in the Level A isopleths section above, the Level B distance was calculated for both impact and vibratory driving (Table 10). The attenuation distance for impact hammer use associated with the installation of the sister pile/support pile with a source level of 182 dB rms resulted in an isopleth

of 293 meters (m). The attenuation distance for vibratory hammer use with a source level of 163 dB rms resulted in an isopleth of 7.35 kilometers (km). The Level B area associated with the 120 dB re 1  $\mu$ Pa (rms) isopleth for vibratory driving and which is used in the take calculations is 0.9445 square kilometers (km<sup>2</sup>). Note that these attenuation distances are based on sound characteristics in open water. The project area is located in a river surrounded by topographic features. Therefore, the actual attenuation distances are constrained by numerous land features and islands. As such, the maximum distance for the Level B isopleth during vibratory driving and drilling is approximately 1.4 km.

**Table 10: Pile-driving Sound Exposure Distances (In-water) Level B Zone of Influence**

Drilling Activity	Behavioral Thresholds for Cetaceans and Pinnipeds	Propagation Model	Attenuation Distance to Threshold
Vibratory Hammer	120 dB rms	Practical Spreading Loss	7.35 km (4.57 mi)
Impact Hammer (rms)	160 dB rms	Practical Spreading Loss	293 m (961 ft)

### *Marine Mammal Occurrence*

In this section, we provide the information about the presence, density, or group dynamics of marine mammals that will inform the take calculations. For all species, the best scientific information available was considered for use in the marine mammal take assessment calculations. Density information was taken from the Navy Marine Mammal Density Database as shown in Table 11. (Craine 2015; Krause 2015). These data are generally used for broad-scale offshore activities; however, due to a lack of any other data within the general project area, these data are presented as the best available data for the Piscataqua River.

**Table 11: Marine Mammal Species Potentially Present in the Piscataqua River near the Shipyard**

Species	Relative Occurrence in Piscataqua River	Season(s) of Occurrence	Approximate Density in the Vicinity of the Project Area (individuals per km <sup>2</sup> ) <sup>(1)</sup>			
			Winter	Spring	Summer	Fall
<b>Harbor Porpoise</b> Gulf of Maine/Bay of Fundy stock	Occasional use	Spring to Fall (April to December) <sup>2</sup>	1.2122	1.1705	0.7903	0.9125
<b>Gray Seal</b> Western North Atlantic stock	Common	Year-round	0.2202	0.2202	0.2202	0.2202
<b>Harbor Seal</b> Western North Atlantic stock	Common	Year-round	0.1998	0.1998	0.1998	0.1998
<b>Harp Seal</b> Western North Atlantic stock	Rare	Winter to Spring (January – May)	0.0125	0.0125	0.0125	0.0125
<b>Hooded Seal</b> Western North Atlantic stock	Rare	Winter to Spring (January-May)	N/A	N/A	N/A	N/A

Notes:

(1) Density data are taken from the Navy Marine Species Density Database (Crain 2015; Krause 2015).

(2) Densities shown for all seasons, even when species are unlikely to occur in the river.

### *Take Calculation and Estimation*

Here we describe how the information provided above is brought together to produce a quantitative take estimate.

The following assumptions are made when estimating potential incidences of take:

- All marine mammal individuals potentially available are assumed to be present within the relevant area, and thus incidentally taken;
- An individual can only be taken once during a 24-h period;
- While up to 16 days of concurrent driving/drilling could occur, NMFS will conservatively assume that there are zero (0) days resulting in a total of 100 pile driving/drilling days; and

- Exposures to sound levels at or above the relevant thresholds equate to take, as defined by the MMPA.

In this case, the estimation of marine mammal takes uses the following calculation:

$$\text{Exposure estimate} = n * \text{ZOI} * \text{days of total activity}$$

Where:

$n$  = density estimate used for each species/season.

ZOI = sound threshold ZOI area; the area encompassed by all locations where the SPLs equal or exceed the threshold being evaluated.

The ZOI impact area is estimated using the relevant distances in Table 9 and Table 10, assuming that sound radiates from a central point in the water column at project site and taking into consideration the possible affected area due to topographical constraints of the action area (*i.e.*, radial distances to thresholds are not always reached) as shown in Figure 6-1 in the application.

There are a several reasons why estimates of potential incidents of take may be conservative, assuming that available density and estimated ZOI areas are accurate. We assume, in the absence of information supporting a more refined conclusion, that the output of the calculation represents the number of individuals that may be taken by the specified activity. In fact, in the context of stationary activities such as pile driving and in areas where resident animals may be present, this number more realistically represents the number of incidents of take that may accrue to a smaller number of individuals. While pile driving can occur any day throughout the period of validity, and the analysis is conducted on a per day basis, only a fraction of that time (typically a matter of hours on any given day) is actually spent pile driving. The potential effectiveness of mitigation measures in reducing the number of takes is typically not

quantified in the take estimation process. For these reasons, these take estimates may be conservative.

### *Harbor Porpoise*

Harbor porpoises may be present in the project area year-round. Based on density data from the Navy Marine Species Density Database, their presence is highest in winter and spring, decreases in summer, and slightly increases in fall. However, in general, porpoises are known to occasionally occur in the river. Average density for the predicted seasons of occurrence was used to determine abundance of animals that could be present in the area for exposure, using the equation  $\text{abundance} = n * \text{ZOI}$ . Estimated abundance estimate for harbor porpoises was 0.96 animals generated from the equation ( $0.9445 \text{ km}^2 \text{ Level B ensnared area} * 1.02 \text{ animals/km}^2$ ). The number of Level B harbor porpoise exposures within the ZOIs is ( $100 \text{ days} * 0.96 \text{ animals/day}$ ) is 96. Therefore, NMFS authorizes 96 Level B takes of harbor porpoise.

The injury zone for harbor porpoise was calculated to extend to a radius of 140 m from impact driven piles and a maximum of 55 m from vibratory or drilling activity. A 75 m shutdown zone is planned (see “Mitigation”); therefore, the area between the 75 m and 140 m isopleths is where Level A take may occur during impact hammer use. The area of the 75 m shutdown zone was subtracted from the full Level A injury zone to obtain the Level A take zone of  $0.0132 \text{ km}^2$ . The density of harbor porpoises is estimated at  $1.02 \text{ harbor porpoises/km}^2$ . Using the density of harbor porpoises potentially present ( $1.02 \text{ animal/km}^2$ ) and the area of the Level A take zone, less than one ( $0.1218 \text{ mammals}$ ) harbor porpoise a day was estimated to be exposed to injury over the nine days of impact pile driving. In the *Federal Register* notice for the proposed IHA (82 FR 56791; November 30, 2017), NMFS had proposed to authorize a single Level A take of harbor porpoise. However, as part of the monitoring requirements under the existing IHA, the

Navy observed two harbor porpoises traveling together in August 2017. In order to avoid shutdown and delay associated with exceeding take limits, NMFS will authorize the Level A take of two harbor porpoises.

### *Harbor Seal*

Harbor seals may be present year-round in the project vicinity, with constant densities throughout the year. Based on local anecdotal data, harbor seals are the most common pinniped in the Piscataqua River near the Shipyard. Average density for the predicted seasons of occurrence was used to determine abundance of animals that could be present in the area for exposure, using the equation  $\text{abundance} = n * \text{ZOI}$ . Abundance for harbor seals were 0.19/day. (Average year-round density = 0.1998). Therefore, Level B harbor seal exposures within the ZOI is  $(100 \text{ days} * 0.19 \text{ animals/day})$  would be up to 19 Level B exposures of harbor seals within the ZOI. As described above in the gray seal section, however, the modeling of estimated takes may be underestimated. The data from the preliminary monitoring report indicated 120 re 1  $\mu\text{Pa}$  (rms) Level B exposures of harbor seals over 73 work days resulting in 1.64 takes per day  $(120 \text{ takes}/73 \text{ days})$ . Therefore, NMFS is proposing to authorize 164 Level B harbor seal takes  $(1.64 \text{ takes/day} * 100 \text{ days})$ .

The injury zone for harbor seals was calculated to extend a radius of 63 m from impact driven piles and 14m for vibratory hammer use. The injury zone for drilling activity is estimated at 23 m. The Level A injury zone is within the shutdown zone, therefore no injurious takes of harbor seals are estimated to occur. However, as stated above for the gray seal take request, this may be an underestimate. The Navy has requested four Level A takes of harbor seal to coincide with the same number of Level A takes requested in Year 1. Preliminary monitoring report results support authorization of Level A take as one harbor seal was detected within 50 m of

drilling activity. Therefore, NMFS is conservatively proposing four Level A takes of harbor seals so that operations will not have to be suspended due to exceeding authorized Level A takes.

### *Gray Seal*

Gray seals are less common in the Piscataqua River than the harbor seal. Average density for the predicted seasons of occurrence was used to determine abundance of animals that could be present in the area for exposure, using the equation  $\text{abundance} = n * \text{ZOI}$ . The estimated abundance for gray seals is 0.21/day (average year-round density = 0.2202). Therefore, the number of Level B gray seal exposures within the ZOI is (100 days \* 0.21 animals/day) resulting in up to 21 Level B exposures of gray seals within the ZOI.

However, current monitoring data indicate that this could be an underestimate. While there could be 21 Level B and 0 Level A takes for gray seal during construction activity monitoring of the zones, observations of gray seals have shown 18 Level B exposures over 73 days of activity through October 27, 2017. This comes out to 0.246 exposures per day ( $18/73 = 0.246$ ). Therefore, the Navy has requested and NMFS is proposing to authorize 25 gray seal takes ( $0.246 \text{ takes/day} * 100 \text{ days}$ ) under the IHA.

The injury zone for gray seals was calculated to extend to a radius of 63m for impact driven piles and 14m for vibratory hammer use. The injury zone for drilling is estimated at 23m from the activity. The injury zone for impact, vibratory and drilling activity remains within the shutdown zone of 75m for impact hammer use and 55 m for vibratory driving and drilling (see “Mitigation”). These zones were utilized during Year 1. Based on these calculations and continued implementation of the shutdown zones, no injurious takes of gray seals are estimated to occur. The Navy, however, requests authorization of two Level A takes of gray seal to coincide with the same number of Level A takes requested in Year 1. This is partially supported

by data collected in the preliminary Year 1 IHA monitoring report in which observers recorded one gray seal within 50 m of drilling activity. Because animals were observed within the shutdown zone during Year 1, NMFS is conservatively proposing authorization of two Level A gray seal takes, so that operations will not have to be suspended if animals unexpectedly occur in the Level A zones.

### *Harp Seal*

Harp seals may be present in the project vicinity during the winter and spring, from January through February. In general, harp seals are much rarer than the harbor seal and gray seal in the Piscataqua River. These animals are conservatively assumed to be present within the underwater Level B ZOI during each day of in-water pile driving. Average density for the predicted seasons of occurrence was used to determine abundance of animals that could be present in the area for exposure, using the equation  $\text{abundance} = n * \text{ZOI}$ . Abundance for harp seals was 0.014/day (average year-round density = 0.0125). The number of Level B harp seal exposures within the ZOI is (100 days \* 0.0125 animals/day) resulting in approximately 1 Level B exposure. In the *Federal Register* notice for the proposed IHA (82 FR 56791; November 30, 2017), NMFS had proposed to authorize a single Level B take of harp seal. Although rare, harp seals have been known to occur in this area. Therefore, in order to avoid shutdown and delay associated with exceeding take limits, NMFS will authorize the Level B take of five harp seals. This conservatively assumes that one harp seal could be taken during each of the five months that construction activities would take place.

The injury zone for harp seals was calculated to extend a radius of 63 m from impact driven piles and 14 m for vibratory hammer use. The injury zone for drilling is estimated at 23 m

from the activity. These isopleths are within the shutdown zones and NMFS. Therefore, no Level A take is authorized as shown in Table 13.

### *Hooded Seal*

In the *Federal Register* notice for the proposed IHA (82 FR 56791; November 30, 2017), NMFS did not propose to authorize take of any hooded seals. This was based on the fact that hooded seals are rare in this area and none were recorded under the 2017 IHA monitoring requirements. In general, hooded seals are much rarer than the harbor seal and gray seal in the Piscataqua River. Anecdotal sighting information indicates that two hooded seals were observed from the Shipyard in August 2009, but no other observations have been recorded. Information on the average density for hooded seals was not available. In order to guard against unauthorized take of hooded seals, NMFS will authorize the Level B take of five hooded seals. This conservatively assumes that during each of the five months of construction one hooded seal could be taken by Level B harassment.

The injury zone for hooded seals was calculated to extend a radius of 63m from impact driven piles and 14m for vibratory hammer use. The injury zone for drilling is estimated at 23 m from the activity. As shown in Table 13, these isopleths are within the shutdown zones and, therefore, no Level A take is authorized.

### **Mitigation**

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses (latter not applicable for this action).

NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or other means of effecting the least practicable adverse impact upon the affected species or stocks and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, we carefully consider two primary factors:

1) the manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned) the likelihood of effective implementation (probability implemented as planned); and

2) the practicability of the measures for applicant implementation, which may consider such things as cost and impact on operations.

#### *Mitigation for Marine Mammals and their Habitat*

The mitigation strategies described below are similar to those required and implemented under the first IHA associated with this project. In addition to the measures described later in this section, the Navy would conduct briefings between construction supervisors and crews, marine mammal monitoring team, and Navy staff prior to the start of all pile driving activity, and when new personnel join the work, in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.

The following measures would apply to the Navy's mitigation through shutdown and disturbance zones:

*Time Restrictions* – Pile driving/removal (vibratory as well as impact) will only be conducted during daylight hours so that marine mammals can be adequately monitored to determine if mitigation measures are to be implemented.

*Establishment of Shutdown zone* – During pile driving and removal, shutdown zones shall be established to prevent injury to marine mammals as determined under acoustic injury thresholds. During all pile driving and removal activities, regardless of predicted sound pressure levels (SPLs), the entire shutdown zone will be monitored to prevent injury to marine mammals from their physical interaction with construction equipment during in-water activities. The shutdown zone during impact driving will extend to 75 m for all authorized species. The shutdown during vibratory driving and drilling will extend to 55 m for all authorized species. Pile driving and removal operations will cease if a marine mammal approaches the shutdown zone. Pile driving and removal operations will restart once the marine mammal is visibly seen leaving the zone or after 15 minutes have passed with no sightings.

*Establishment of Level A Harassment Zone* – The Level A harassment zone is an area where animals may be exposed to sound levels that could result in PTS injury. The primary purpose of the Level A zone is monitoring for documenting incidents of Level A harassment. The Level A zones will extend from the 75 m shutdown zone out to 140 m for harbor porpoises. Animals observed in the Level A harassment zone will be recorded as potential Level A takes.

*Establishment of Disturbance/Level B Harassment Zone* – During pile driving and removal, the Level B zone shall include areas where the underwater SPLs are anticipated to equal or exceed the Level B harassment criteria for marine mammals (160 dB rms isopleths for

impact pile driving, 120 re 1  $\mu$ Pa (rms) isopleth for vibratory pile-driving and drilling). The Level B zone will extend out to 293 m for impact driving and 7.35 km during vibratory driving and drilling and will include all waters in the sight line of the driving or drilling operation not constrained by land.

*Shutdown Zone during Other In-water Construction or Demolition Activities* – During all in-water construction or demolition activities having the potential to affect marine mammals, in order to prevent injury from physical interaction with construction equipment, a shutdown zone 10 m will be implemented to ensure marine mammals are not present within this zone. These activities could include, but are not limited to: (1) the movement of a barge to the construction site, or (2) the removal of a pile from the water column/substrate via a crane (*i.e.*, a “dead pull”).

*Soft Start for Impact Pile Driving*—The use of a soft-start procedure is believed to provide additional protection to marine mammals by providing a warning and/or giving marine mammals a chance to leave the area prior to the hammer operating at full capacity. The project will use soft-start techniques recommended by NMFS for impact pile driving. Soft start must be conducted at beginning of day's activity and at any time impact pile driving has ceased for more than 30 minutes. If an impact hammer is used, contractors are required to provide an initial set of three strikes from the impact hammer at 40 percent energy, followed by a 1-minute waiting period, then two subsequent 3-strike sets.

*Monitoring Protocols*—Monitoring would be conducted before, during, and after pile driving activities. In addition, observers shall record all incidents of marine mammal occurrence, regardless of distance from activity, and shall document any behavioral reactions in concert with distance from piles being driven. Observations made outside the shutdown zone will not result in shutdown; that pile segment would be completed without cessation, unless the animal

approaches or enters the shutdown zone, at which point all pile driving activities would be halted. Monitoring will take place from 15 minutes prior to initiation through 30 minutes post-completion of pile driving activities.

Monitoring will be conducted by one marine mammal observer (MMO) on one-third of driving days who will monitor the Level A harassment and shutdown zone during all pile-driving operations. Two MMOs shall monitor the Level A, Level B, and shutdown zones during two-thirds of pile-driving days. The Navy will extrapolate data collected by two MMOs during two-thirds of monitoring days and calculate total Level B take for all pile-driving days.

Prior to the start of pile driving activity, the shutdown zone will be monitored for 15 minutes to ensure that it is clear of marine mammals. Pile driving will only commence once observers have declared the shutdown zone clear of marine mammals; animals will be allowed to remain in the shutdown zone (*i.e.*, must leave of their own volition) and their behavior will be monitored and documented. The shutdown zone may only be declared clear when the entire shutdown zone is visible (*i.e.*, when not obscured by dark, rain, fog, etc.).

Drilling/pile driving activity shall not be conducted when weather/observer conditions do not allow for adequate sighting of marine mammals. In the unlikely event of conditions that prevent the visual detection of marine mammals, such as heavy fog, activities with the potential to result in Level A or Level B harassment will not be initiated. Impact pile driving already underway would be curtailed, but vibratory driving may continue if driving has already been initiated on a given pile. Driving of additional piles by any means will not be allowed until all zones are visible. However, in the event of an unsafe work environment if conditions prevent detection of marine mammals during impact pile driving and the pile currently being driven is

not stable enough for activities to cease, impact pile driving would continue to get the single pile to stability.

If a marine mammal approaches or enters the shutdown zone during the course of pile driving operations, activity will be halted and delayed until either the animal has voluntarily left and been visually confirmed beyond the shutdown zone or 15 minutes have passed. Monitoring will be conducted throughout the time required to drive a pile and for 30 minutes following the conclusion of pile driving.

Based on our evaluation of the applicant's proposed measures NMFS has determined that the required mitigation measures provide the means effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

### **Monitoring and Reporting**

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the action area. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.*, presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.*, source characterization, propagation, ambient noise); (2) affected species (*e.g.*, life history, dive patterns); (3) co-occurrence of marine mammal species with the action; or (4) biological or behavioral context of exposure (*e.g.*, age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.*, marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and
- Mitigation and monitoring effectiveness.

#### *Previous Monitoring Report*

The Navy submitted a preliminary monitoring report covering the period between April 18, 2017 and October 27, 2017. This period does not cover all pile driving activities. Therefore, the Navy will submit a final report after the authorization period ends. During this period, piles were installed using vibratory hammer, the impact hammer, and drilling. Work was conducted over 73 days. Drilling has accounted for 98.8% of the total noise-generating time spent on installation/extraction activities at the Shipyard; vibratory activity occurred during 1% of the total time; and impact driving took place <1% of the total time. During this time, observers

noted 142 occurrences of marine mammals within designated zones, with all but one occurring within the Level B harassment zone as shown in Table 12. Monitoring of all zones occurred on every drilling day.

**Table 12: Summary of 2017 Takes Through October 28, 2018**

Species	Level A		Level B	
	Actual	Authorized	Actual	Authorized
Harbor porpoise	0	10	3	160
Harbor seal	1	4	120	312
Gray seal	0	2	18	156
Harp seal	0	0	0	5
Hooded seal	0	0	0	5

### *Visual Monitoring*

The Navy will be required to conduct visual marine mammal monitoring during pile driving activities. Observers shall record all incidents of marine mammal occurrence, regardless of distance from activity, and shall document any behavioral reactions in concert with distance from piles being driven or removed. Pile driving activities include the time to install or remove a single pile or series of piles, as long as the time elapsed between uses of the pile driving equipment is no more than 30 minutes.

A minimum of two MMOs will be on location during all pile driving activities. They will be placed at the best vantage point(s) practicable. MMOs may be stationed on an elevated platform. MMOs will monitor for marine mammals and implement shutdown/delay procedures when applicable by calling for the shutdown to equipment operators. MMOs will scan the waters within each monitoring zone activity using big-eye binoculars, hand held binoculars, spotting

scopes and visual observation. Monitoring distances will be measured with range finders and bearing to animals shall be determined using a compass.

The observers will be trained on the observation zones, potential species, how to observe, and how to fill out the data sheets by the Navy Natural Resources Manager prior to any pile-driving activities. The supervisory observer will be a trained biologist; additional observers will be trained by that supervisor as needed.

Shutdown and Level A zones must be monitored at all times by one MMO with no other duties or responsibilities. A second MMO will be required to monitor Level B zones on two-thirds of driving days. The following additional measures apply to visual monitoring during all pile driving activities

- Independent observers (*i.e.*, not construction personnel) are required;
- At least one observer must have prior experience working as an observer;
- Other observers (that do not have prior experience) may substitute education (undergraduate degree in biological science or related field) or training for experience;
- NMFS will require submission and approval of observer resumes.

Qualified observers are trained biologists with the following minimum qualifications:

- Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with ability to estimate target size and distance; use of binoculars may be necessary to correctly identify the target;
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;

- Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates and times when in-water construction activities were suspended to avoid potential incidental injury from construction sound of marine mammals observed within a defined shutdown zone; and marine mammal behavior; and

- Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.

A draft marine mammal monitoring report will be submitted to NMFS within 90 days after the completion of pile driving and removal activities or 60 days prior to the issuance of any subsequent IHA for this project, whichever comes first. It will include an overall description of work completed, a narrative regarding marine mammal sightings, and associated marine mammal observation data sheets, and extrapolated Level B take counts. Specifically, the report must include:

- Date and time that monitored activity begins or ends;
- Sediment characteristics/type;
- Construction activities occurring during each observation period;
- Weather parameters (*e.g.*, percent cover, visibility);
- Water conditions (*e.g.*, sea state, tide state);
- Species, numbers, and, if possible, sex and age class of marine mammals;
- Description of any observable marine mammal behavior patterns, including bearing and direction of travel and distance from pile driving activity;
- Distance from pile driving activities to marine mammals and distance from the marine mammals to the observation point;

- Locations of all marine mammal observations; and
- Other human activity in the area.

If no comments are received from NMFS within 30 days, the draft final report will constitute the final report. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt of comments.

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA (if issued), such as serious injury or mortality, the Navy will immediately cease the specified activities and report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the Northeast/Greater Atlantic Regional Stranding Coordinator. The report would include the following information:

- Description of the incident;
- Environmental conditions (*e.g.*, Beaufort sea state, visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;
- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

Activities would not resume until NMFS is able to review the circumstances of the prohibited take. NMFS would work with the Navy to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The Navy would not be able to resume their activities until notified by NMFS via letter, email, or telephone.

In the event that the Navy discovers an injured or dead marine mammal, and the lead MMO determines that the cause of the injury or death is unknown and the death is relatively recent (*e.g.*, in less than a moderate state of decomposition as described in the next paragraph), the Navy would immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the Northeast/Greater Atlantic Regional Stranding Coordinator. The report would include the same information identified in the paragraph above. Activities would be able to continue while NMFS reviews the circumstances of the incident. NMFS would work with the Navy to determine whether modifications in the activities are appropriate.

In the event that the Navy discovers an injured or dead marine mammal and the lead MMO determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), the Navy would report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the Northeast/Greater Atlantic Regional Stranding Coordinator within 24 hours of the discovery. The Navy would provide photographs, video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network.

#### *Hydroacoustic Monitoring*

The Navy will continue to implement its in situ acoustic monitoring efforts in 2018. Specifically, data would be collected during vibratory installation of 20 sheet piles and impact installation of 4 H-piles, during drilling activities on one day, and during one day of drilling with concurrent vibratory driving. However, concurrent activity is so infrequent it is not likely to occur for a full day. Navy shall measure sound intensity at 10 m from the source pile, at the

modeled limits of the Level A and Level B zones, and at intermediate points between 10m and the 160 dB and 120 dB re 1  $\mu$ Pa (rms) isopleths. For all piles required to be monitored, 100 percent of the data from each pile will be analyzed and included in the reported results, including “soft starts” of impact hammers. For each combination of pile type and hammer, the monitoring locations will be chosen to maximize coverage of the ZOI based on the number of piles scheduled for monitoring for a given timeframe. See the Navy’s Acoustic Monitoring Plan for additional information. A final report shall be submitted to NMFS within 30 days of completing the verification monitoring. Results from the 2017 Hydroacoustic Monitoring Report may be found in Appendix A of the application. Data from the 2017 and 2018 hydroacoustic monitoring reports may be used to revise isopleths delineating harassment zones. Any revisions would be subject to NMFS’ review and approval.

### **Negligible Impact Analysis and Determination**

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be “taken” through harassment, NMFS considers other factors, such as the likely nature of any responses (*e.g.*, intensity, duration), the context of any responses (*e.g.*, critical reproductive time or location, migration), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population

status. Consistent with the 1989 preamble for NMFS's implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

Pile driving, pile extraction and drilling activities associated with the Navy project have the potential to injure, disturb or displace marine mammals. Specifically, the planned activities may result in Level B harassment (behavioral disturbance) for all species authorized for take from underwater sound generated during pile driving. Level A harassment in the form of PTS may also occur to limited numbers of three marine mammal species. Potential takes could occur if individuals of these species are present in the ensonified zone when pile driving and removal occurs.

No serious injury or mortality is anticipated given the nature of the activities and measures designed to minimize the possibility of injury to marine mammals. The potential for these outcomes is minimized through the construction method and the implementation of the planned mitigation measures. Specifically, vibratory driving and drilling will be the primary methods of installation (impact driving will occur for only 1.5 hours over 84-100 days). During impact driving, implementation of soft start and shutdown zones significantly reduces any possibility of injury. Given sufficient "notice" through use of soft start (for impact driving), marine mammals are expected to move away from a sound source that is annoying prior to it becoming potentially injurious. Conditions at the Shipyard offer MMOs clear views of the shutdown zones, enabling a high rate of success in implementation of shutdowns to avoid injury.

The Navy's planned activities are highly localized. A small portion of the Piscataqua River may be affected which is only a subset of the ranges of species for which take is authorized. The project is not expected to have significant adverse effects on marine mammal habitat. No important feeding and/or reproductive areas for marine mammals are known to be near the project area. Project-related activities may cause some fish to leave the area of disturbance, thus temporarily impacting marine mammals' foraging opportunities in a limited portion of the foraging range. However, since the area of the habitat range utilized by each species that may be affected is relatively small, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

Exposures to elevated sound levels produced during pile driving activities may cause behavioral responses by an animal, but they are expected to be mild and temporary. Effects on individuals that are taken by Level B harassment, on the basis of reports in the literature as well as monitoring from other similar activities, will likely be limited to reactions such as increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.*, Thorson and Reyff, 2006; Lerma, 2014). Most likely, individuals will simply move away from the sound source and be temporarily displaced from the areas of pile driving, although even this reaction has been observed primarily only in association with impact pile driving. These reactions and behavioral changes are expected to subside quickly when the exposures cease. The pile driving activities analyzed here are similar to, or less impactful than, numerous construction activities conducted in other similar locations, which have taken place with no reported injuries or mortality to marine mammals, and no known long-term adverse consequences from behavioral harassment. Repeated exposures of individuals to levels of sound that may cause Level B harassment are unlikely to result in permanent hearing impairment or to

significantly disrupt foraging behavior. Level B harassment will be reduced through use of mitigation measures described herein.

In summary and as described above, the following factors primarily support our determination that the impacts resulting from this activity are not expected to adversely affect the species or stock through effects on annual rates of recruitment or survival:

- No mortality or serious injury is anticipated or authorized;
- The area of potential impacts is highly localized;
- No adverse impacts to marine mammal habitat;
- The absence of any significant habitat within the project area, including rookeries, or known areas or features of special significance for foraging or reproduction;
- Anticipated incidences of Level A harassment would be in the form of a small degree of PTS to a limited number of animals;
- Anticipated incidents of Level B harassment consist of, at worst, temporary modifications in behavior;
- Very few individuals are likely to be affected by project activities (<0.01 percent of population for all authorized species); and
- The anticipated efficacy of the required mitigation measures in reducing the effects of the specified activity.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the required monitoring and mitigation measures, NMFS finds that the total marine mammal take from the construction activity will have a negligible impact on all affected marine mammal species or stocks.

## Small Numbers

As noted above, only small numbers of incidental take may be authorized under section 101(a)(5)(D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

**Table 13. Estimated Number of Exposures and Percentage of Stocks that May Be Subjected to Level A and Level B Harassment.**

Species	Authorized Take		Total Level A and Level B Takes	% Population
	Level B	Level A		
Harbor porpoise <i>Gulf of Maine/Bay of Fundy stock</i>	96	2	98	<0.01
Gray Seal <i>Western North Atlantic stock</i>	25	2	27	<0.01
Harbor Seal <i>Western North Atlantic stock</i>	164	4	168	<0.01
Harp Seal <i>Western North Atlantic stock</i>	5	0	5	<0.01
Hooded Seal <i>Western North Atlantic stock</i>	5	0	5	<0.01

Table 13 illustrates the number of animals that could be exposed to Level A and Level B harassment from work associated with the waterfront improvement project. The analysis provided indicates that authorized takes account for <0.01 percent of the populations of the

stocks that could be affected. These are small numbers of marine mammals relative to the sizes of the affected species and population stocks under consideration.

Based on the analysis contained herein of the planned activity (including the required mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

### **Unmitigable Adverse Impact Analysis and Determination**

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

### **Endangered Species Act (ESA)**

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA: 16 U.S.C. 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat.

No incidental take of ESA-listed species is authorized or expected to result from this activity. Therefore, NMFS has determined that consultation under section 7 of the ESA is not required for this action.

### **National Environmental Policy Act**

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216-6A, NMFS must review our proposed

action (i.e., the issuance of an incidental harassment authorization) with respect to potential impacts on the human environment.

This action is consistent with categories of activities identified in CE B4 of the Companion Manual for NOAA Administrative Order 216-6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has determined that the issuance of the IHA qualifies to be categorically excluded from further NEPA review and signed a Categorical Exclusion memo in January 2018.

#### **Authorization**

NMFS has issued an IHA to the Navy for the potential harassment of small numbers of five marine mammal species incidental to the Waterfront Improvement Project at the Portsmouth Naval Shipyard in Kittery, Maine, provided the previously mentioned mitigation, monitoring and reporting requirements are incorporated.

Dated: January 19, 2018.

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Donna S. Wieting,

Director, Office of Protected Resources,

National Marine Fisheries Service.

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